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A NEW DEEP-WATER SPECIES OF *LEPIDOPLEURUS* (POLYPLACOPHORA) FROM THE VENEZUELA BASIN.

Antonio J. Ferreira[1]

Research Associate, Department of Invertebrate Zoology
California Academy of Sciences
San Francisco, CA 94118

ABSTRACT

A new species of Lepidopleurus *from the depths of the Venezuela Basin, Caribbean Sea, is described and compared with* L. scrippsianus *Ferreira, 1980, from the Eastern Pacific.*

From October to December 1981, the Naval Ocean Research and Development Activity (NORDA), NSTL Station, MS, conducted intense physical and biological investigations of deep-sea sediments in the Venezuela Basin from aboard USNS Bartlett (cruise 1301-82). Among the benthic macrofauna were 6 specimens of chitons: 3 specimens, ca. 13, 11, and 9 mm long

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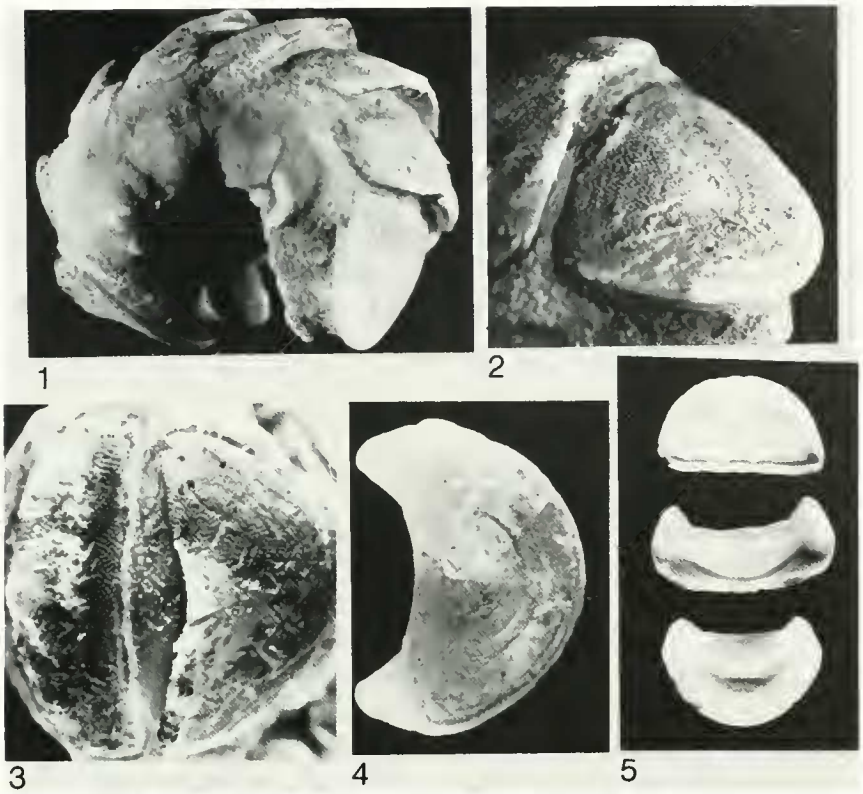

FIGS. 1-5, *Lepidopleurus bartletti* Ferreira, *spec. nov.:* Holotype (USNM 859000), side view. **2,** view of posterior valve. **3,** first and second valve. **4,** paratype, posterior valve. **5,** paratype, under view, valves i, iv and viii.

(sta. 40: 15°08′N, 69°12′W, depth 3867 to 4009 m, 28 Oct. 1981); 1 specimen, ca. 15 mm long (sta. 63: 13°45′N, 67°45′W, depth 5046 m, 8 Nov. 1981); 1 specimen, ca. 10 mm long (sta. 65: 13°45′N, 67°45′W, depth 5046 m, 9 Nov. 1981); and 1 specimen, 1.3 mm long (sta. 88: 13°30′N, 64°45′W, depth 3516 to 3550 m, 25-26 Nov. 1981). All chitons were found on pieces of wood brought up in trawls. Study of this material, generously made available through Michael D. Richardson and Paula M. Mikkelsen, revealed a new species here allocated to the genus *Lepidopleurus* Risso, 1826.

Order **Neoloricata** Berhenhayn, 1955
Family **Lepidopleuridae** Pilsbry, 1892
Genus ***Lepidopleurus*** Risso, 1826

Lepidopleurus bartletti Ferreira, spec. nov.

Figures 1-6

Diagnosis: Small (up to 15 mm long) white chitons. Valves somewhat rugose; posterior edges moderately angled; surface covered with microgranular cuticle over sculptureless, chalky tegmentum. End valves remarkably flat; mucro slightly anterior; lateral areas not prominent, with some concentric growth rugae continuing into central areas. Gills posterior. Girdle thick; upper surface carpeted with small spiculoid elements with occasional, thin, straight, long spicules interspersed; undersurface reduced to fine cuticle devoid of scales or spicules. Radula median teeth wider in back than in front, with tricuspid major lateral teeth and rakelike spatulate teeth.

Type material: Holotype (USNM 859000) and paratypes (CAS 059845; IRCZM 061:085; LACM 2123).

Other material: Specimen 1.3 × 0.9 mm, from sta. 88, tentatively identified as *L. bartletti* (CAS 059846) but not given paratypic status in view of its small size and ill-defined, juvenile characters.

Type locality: Venezuela Basin, Caribbean Sea, 13°45′N, 67°45′W, at depth of 5046 m. (Station 63, roughly 150 mi. N.E. of Bonaire, Netherlands Antilles).

Description: Holotype (from USNV *Bartlett* sta. 63), preserved in alcohol, curled, ca. 15 mm long, 10 mm wide (figs. 1-3). Valves subcarinate, moderately beaked, with angled posterior edges. Shell surface covered with microgranular cuticle, easily scraped off to show chalky white, sculptureless tegmentum beneath. Anterior valve remarkably flat. Lateral areas of intermediate valves not prominent except for greater valve thickness and concentric growth rugae often continuing unto sculptureless central areas. Posterior valve extremely flat; mucro slightly anterior, poorly defined. Gills posterior, about 20 plumes per side, extending 40% of length of foot. Girdle creamy white, thick, with conspicuous straight, thin, glassy spicules interspersed on background of much smaller, thinner, closely packed spiculoid elements.

Paratypes (from USNV *Bartlett* sta. 40 and sta. 63.) very similar to holotype. Paratype from sta. 40, 13 mm long, disarticulated: Cuticle easily removable from valves uncovering chalky, sculptureless tegmental surface beneath (fig. 4). Articulamentum white with no insertion teeth or slits (fig. 5). Valve i, 5.2 mm wide, 3.2 mm long, 1.2 mm high at posterior edge. Valve v, 6.0 mm wide, 2.0 mm long in midline. Valve viii, 5.1 mm wide, 3.7 mm long, 1.0 mm high at anterior edge, slightly convex in premucro area, slightly concave in postmucro area. Sutural laminae short, triangular; sinus very wide; on valve viii, relative width of sinus (width of sutural sinus/width of sutural lamina) is 1.8. Girdle dorsal surface densely carpeted with blunt-ended, cigar-shaped, spiculoid elements up to 100 × 25 μm (up to 120 × 35 μm at sutures), often longitudinally striated (fig. 6-A), interspersed straight, vaguely striated, glassy spicules up to 300 × 28 μm (fig. 6-B), interspersed; undersurface reduced to fine cuticle without scales, spicules or other elements; girdle bridges empty. Radula 6 mm long, comprising 55 rows of mature teeth; median teeth (fig. 6-A) 80 μm long, 30 μm wide at anterior blade, enlarging posteriorly to 60 μm; first lateral teeth about 80 μm long, with socketlike concavity at anterior end; major lateral teeth with tricuspid head (fig. 6-B) about 70 μm wide, 100 μm long at middle cusp; spatulate teeth 150 μm wide with fasciculate, rakelike appearance (fig. 6-C); outer marginal teeth 90 μm long, 120 μm wide (width/length, 0.75).

Distribution: Lepidopleurus bartletti is known only from the general area of the type locality in the central lower Caribbean at great depths.

Remarks: In addition to *L. bartletti*, only two other living species of *Lepidopleurus* are known: *L. cajetanus* (Poli, 1791), a common intertidal to sublitoral European species, and *L. scrippsianus* Ferreira, 1980, collected at over 2500 m in

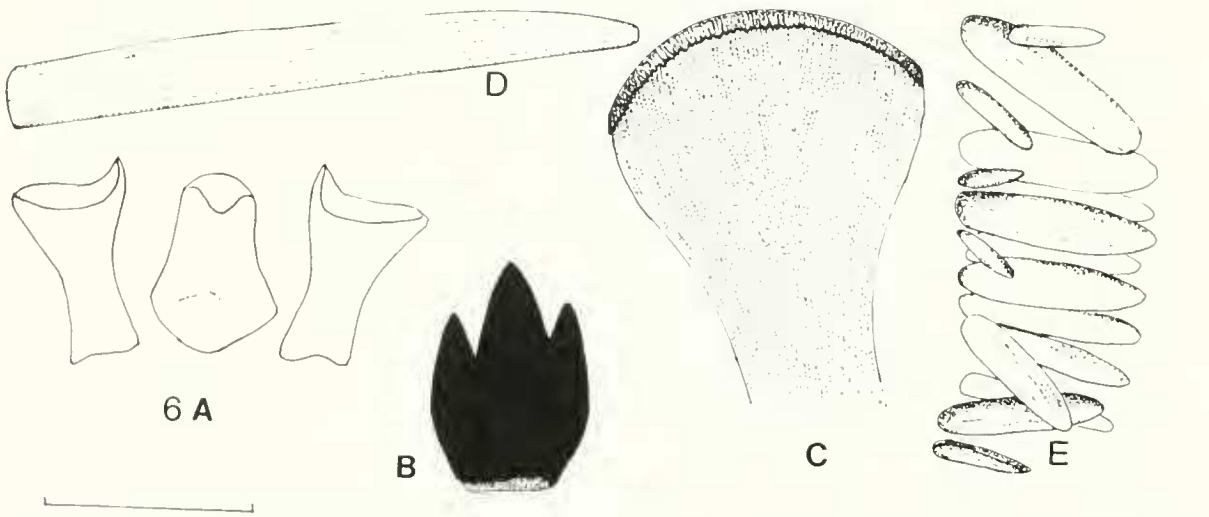

FIG. 6. *Lepidopleurus bartletti* Ferreira, spec. nov.: Paratype (CAS 059845), radular - (A) median and first lateral teeth; (B) head of major lateral tooth; (C) head of spatulate tooth; (D) interspersed spicule; (E) background spiculoid elements. Scale bar 100 μm.

the eastern Pacific, SW of Cabo San Lucas, Baja California, Mexico. A fossil species, *L. morozakiensis* Itoigawa, Nishimoto and Tomida, 1977, is known from the Miocene Morozaki group of central Japan.

Lepidopleurus bartletti is quite similar to *L. scrippsianus* from which it differs in 1) more delicate, less rugose valves, 2) posterior edge of valves forming much wider angle, 3) lateral areas much less accentuated, 4) extremely flat end valves, 5) anterior mucro, and 6) valve covering cuticle [not seen in specimens of *L. scrippsianus*], giving *bartelli*'s valves a microgranular appearance which contrasts with the sculptureless, chalky tegmental surface beneath. Notable features common to *L. bartletti* and *L. scrippsianus* are 1) girdle elements, 2) girdle undersurface reduced to cuticle without spicules or scales, and 3) radula with unusually shaped median teeth and rake-like spatulate teeth.

The species is named *bartletti* in honor of the USNS *Bartlett* for her central role in this study of the Venezuela Basin.

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A NEW SPECIES OF *LYRIA* (GASTROPODA: VOLUTIDAE) FROM THE ARABIAN SEA

William K. Emerson and **Walter E. Sage III**
Department of Invertebrates
American Museum of Natural History
New York, NY 10024

ABSTRACT

Lyria leslieboschae, *new species, is described from off Masirah Island, Sultanate of Oman, Arabian Sea. Known only from a few beach specimens, this new taxon is distinguished by discrete differences in shell morphology from the superficially similar species,* Lyria lyraeformis *(Swainson, 1821), which occurs off the coast of Kenya, East Africa.*

Donald and Eloise Bosch resided for nearly thirty years in Oman, where she was a teacher and he was a practicing physician. During this time, they became knowledgable shell collectors and eventually co-authored an illustrated guide, "Seashells of Oman", which was published in 1983. Among specimens they recently submitted to us for study were four examples of a new